

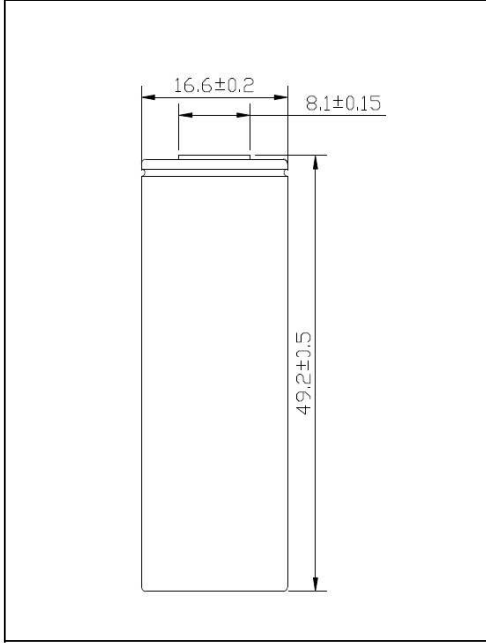


## SPECIFICATIONS

### Sealed Rechargeable Nickel Cadmium Ni-CD 1400mAh A

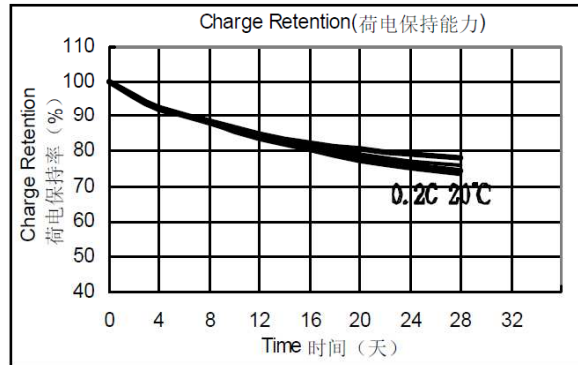
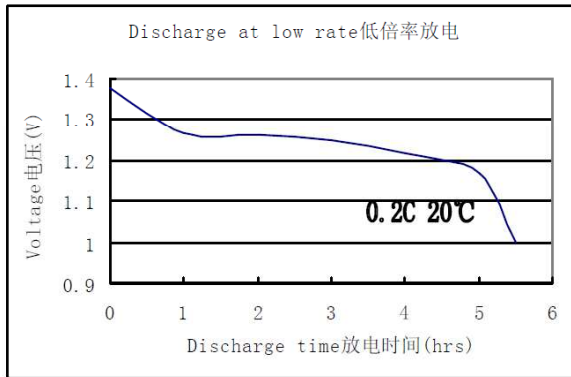
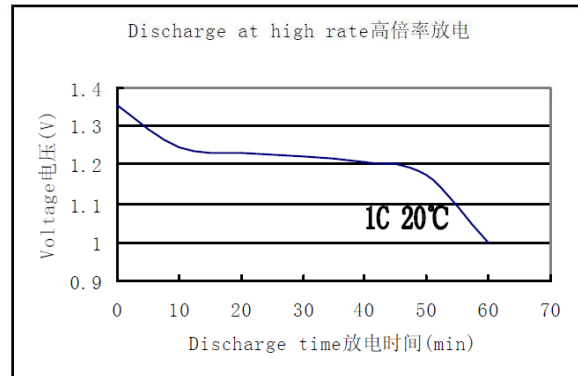
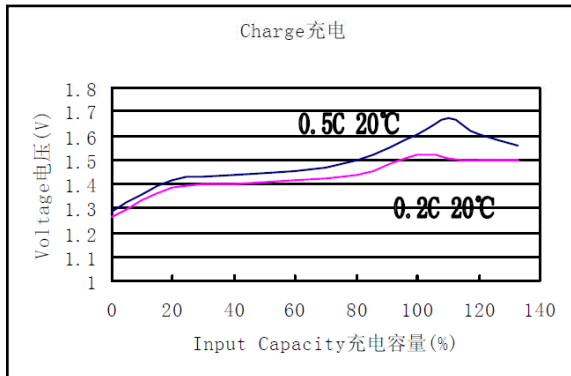
**MODEL No:** NCA1400

**Description:** 1400mAh A SIZE Ni-Cd



**Specification**

Nominal Capacity 额定容量		1400 mAh	
Nominal Voltage 额定电压		1.2 V	
Charge current 充电电流	Standard 标准	140mA	
	Quick 快充	420mA	
	Fast 急充	700mA	
Charge time 充电时间	Standard 标准	14~16 Hrs	
	Quick 快充	4.0 Hrs	
	Fast 急充	2.5Hrs	
Ambient Temperature 使用温度	Charge 充电	Standard 标准	0°C~35°C
		Quick 快充	10°C~35°C
		Fast 急充	10°C~35°C
	Discharge 放电		-30°C~60°C
	Storage 储存		-30°C~35°C
Internal Impedance(mΩ) (Upon fully charge)充满电后内阻		Max ≤ 25	
Weight 重量		29.9g	





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#### 2. PERFORMANCE

Unless otherwise stated, tests should be done within one month of delivery under the following conditions:

Ambient Temperature: T:  $20 \pm 5^\circ\text{C}$

Relative Humidity:  $65 \pm 20\%$

Test Item	Test Conditions				Requirements
(1) <b>Standard Charge</b>	Charge is conducted continuously for 16 hours at the constant current of 140mA (0.1C) after pre-discharge at the constant current of 280mA (0.2C) up to a cut-off voltage of 1.0V/cell				
(2) <b>Open-circuit Voltage</b>	Voltage between terminals of the charged battery specified in item (1) is measured after rest for 1 hour				$\geq 1.25\text{V}$
(3) <b>Capacity (0.2C)</b>	Capacity of the charged battery specified in item (1) is measured at 280mA (0.2C) up to a cut-off voltage of 1.0V after rest for 15 minutes. If the discharge time doesn't reach the specified value, the test may be carried out further twice, up to three times in total.				$\geq 1400\text{mAh}$
(4) <b>High rate discharge(1C)</b>	Discharge time of the charged battery specified in item (1) is measured at 1400mA (1C) up to a cut-off voltage of 1.0V after rest for 15 minutes. If the discharge time doesn't reach the specified value, the test may be carried out further twice, up to three times in total.				$\geq 54\text{minutes}$
(5) <b>Fast charge (0.5C)</b>	Charge: 700mA $\times$ 2.5hours (charging Cut off = $-\Delta V=5\sim 10\text{mV/cell}$ or Temp.Cut off= $50^\circ\text{C}$ )				
(6) <b>Trickle charge current</b>	46.2mA(0.033C) $\sim$ 70 mA (0.05C)				
(6) <b>Charge retention</b>	Capacity of the charged battery specified in item (1) is measured at 280mA (0.2C) up to a cut-off voltage of 1.0V after rest for 28 days at $20^\circ\text{C}$ .				$\geq 70\%$
(7) <b>IEC Cycle life</b> (IEC61951-1 (2003) 7.4.1.1)	Cycle No	Charge	Rest	Discharge	$\geq 500$
	1	0.1C $\times$ 16h	None	0.25C $\times$ 140min	
	2-48	0.25C $\times$ 190min	None	0.25C $\times$ 140min	
	49	0.25C $\times$ 190min	None	0.25C to 1.0v	
	50	0.1C $\times$ 16h	1-4h	0.2C to 1.0v	
Cycles 1 to so shall be repeated until the discharge duration on any 50 <sup>th</sup> cycle becomes less than 3h					
(8) <b>Accelerated cycle life</b>	Charge: 700mA (0.5C) $\times$ 2.5 hours (charging Cut off = $-\Delta V=5\sim 10\text{mV/cell}$ or Temp.Cut off= $50^\circ\text{C}$ ) ;Discharge: 1400mA (1C) to 1.0V/cell,end-of:70% nominal capacity				$\geq 400$
(9) <b>Safety valve operation</b>	Forced discharge is conducted for 60 minutes at a constant current of 1400mA (1C) after pre-discharge at a constant current of 280mA (0.2C) up to 0V				Leakage, No explode or disrupt



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**Sealed Rechargeable Nickel Cadmium**  
**Ni-CD 1400mAh A**

(10) <b>Leakage</b>	Fully charged at 700mA ( 0.5C ) for 2.4 hour stand for 14 days	No leakage nor deformation
(12) <b>Vibration Resistance</b>	Charge the battery 0.1C 16hrs, then leave for 24hrs, check Battery before/after vibration, Amplitude 1.5mm Vibration 1100 CPM Any direction for 110mins.	Change of voltage should be under 0.02V/cell, Change of impedance should be under 5 milli-ohm/cell
(13) <b>Impact Resistance</b>	Charge the battery 0.1C 16hrs Then leave for 24hrs, check bat-before/after dropped, Height 50cm Wooden board (thickness 30mm) Direction not specified, 3 times.	Change of voltage should be under 0.02V/cell Change of impedance should be under 5 milli-ohm/cell

### 3. EXTERNAL APPEARANCE

The cell/battery shall be free from cracks, scars, breakage, rust, discoloration, leakage nor deformation.

### 4. CAUTION

- (1) Reverse charging is not acceptable.
- (2) Charge before use. The cells/batteries are delivered in an uncharged state.
- (3) Do not charge/discharge with more than our specified current.
- (4) Do not short circuit the cell/battery. Permanent damage to the cell/battery may result.
- (5) Do not incinerate or mutilate the cell/battery.
- (6) Do not solder directly to the cell/battery.
- (7) The life expectancy may be reduced if the cell/battery is subjected adverse conditions like: extreme temperature, deep cycling, excessive overcharge/ over-discharge.
- (8) Store the cell/battery uncharged in a cool dry place. Always discharge batteries before bulk storage or shipment.